



Cerulean Warbler *Dendroica cerulea*

What is a Cerulean Warbler?

Appearance

The cerulean warbler, named for the blue color of the male, is a small, migratory bird that weighs about 0.3 oz. (8-10 grams). Typical of most warblers, the males are more brightly colored and look quite different from the females. The male is bright *cerulean* blue above and white below, with white wing bars, white tail spots, a narrow black necklace and black streaks along the sides and back. The female is dull turquoise above and yellowish-white below, with a pale blue crown and a white or yellowish line over the eye. The female also has white wing bars and white tail spots but does not have a breast band or distinctive streaking. Young birds are similar to the adult females, but are greener in color.

Range

The cerulean warbler's summer range encompasses an area that extends eastward from the Great Plains in eastern North and South Dakota, Nebraska, Kansas, and Oklahoma; south to Arkansas, Mississippi, Tennessee, northern Alabama and Georgia, and South Carolina; north to Massachusetts, southern Quebec, southeastern Ontario, Michigan, Wisconsin, and central Minnesota. Within this area, they breed primarily in the Ohio and Mississippi River valleys, and are particularly numerous in the upper Ohio River Valley in West Virginia and western Pennsylvania. During migration the birds pass through the



The cerulean warbler is a small migratory bird that breeds in the forests of the central and eastern United States.

Photo by USGS BRD; Stuart Tingley

southern U.S., fly across the Gulf of Mexico to the highlands of Central America, and on to South America. They spend the winter in the lower elevations of the subtropical zone of the eastern slope of the Andes and other mountains in northern South America.

Habitat

Cerulean warblers nest and raise their young in large tracts of deciduous hardwood forests that have tall, large diameter trees with an open understory. Gaps in the forest canopy, or openings, are also important habitat components. Cerulean warblers nest in uplands, wet bottomlands, moist slopes, and mountains from less than 30 to more than 1,000 meters in elevation. Migratory and winter season habitats are not well known, but cerulean warblers have been observed occupying the

canopy and edges of broad-leaved, evergreen forests and woodlands at middle and lower elevations (approximately 500-1,500 meters) on the east slopes of the Andes Mountains from Columbia to Peru and Venezuela.

Feeding Habits

Cerulean warblers eat mostly insects, including includes bees, wasps, caterpillars, and weevils. They search for and take insects from base of leaves and from the foliage of many different tree species.

Reproduction

During the breeding season, males sing high up in mature trees. Their song is distinctive, with rapid buzzy notes on one pitch followed by a short series of rising and accelerating notes, ending with a high buzzy trill.

Females build open-cup nests on the mid and upper branches of deciduous forest trees (30 to 60 feet above the ground). The nests are often made of bark, weed stalks, fine grasses, lichen, and moss, neatly interwoven and lined with fine fibers, moss, and occasionally hair. Nests are often located over an open space but are concealed from above by clumps of leaves from other branches or vines growing alongside the branch supporting the nest. Three to four eggs are laid in May or June which the female incubates for 11 to 13 days. Once they hatch, both parents feed the young for 9 to 11 days. When the young first fledge they are fed by the parents in lower-level vegetation, particularly in areas with extensive tangles of grape vines.

Why is There Concern About the Cerulean Warbler?

Population Declines

The cerulean warbler was once one of the most abundant breeding birds in the lower Mississippi valley. Extensive logging at the end of the 19th and beginning of the 20th centuries resulted in dramatic population declines. While the cerulean warbler's range has contracted and the overall population has declined, the species exists at high densities at various locations in the core of its range, the population is increasing in several areas, and new populations have been discovered.

Habitat Loss on Breeding Grounds

Within its breeding range, vast acreages of forest have been permanently cleared and replaced with farm lands, cities, and suburbs. Where forests remain, mature and old-growth stands have been replaced with forests that are harvested on rotations that do not allow the growth of mature stands needed by the cerulean. Also,

cerulean warblers do not occur in small forest tracts. Many remaining forested lands are no longer suitable habitat because they have been fragmented into a patchwork of small wooded islands surrounded by farms, cities, power lines, etc.

Habitat Loss on Wintering Grounds

The cerulean's wintering habitat is rapidly being converted from native montane subtropical forest to pastures and farms.

Habitat Loss on Migratory/Stopover Grounds

The extent to which cerulean warblers are limited by the loss of suitable migratory-stopover habitat is unclear. However, resting locations close to the Gulf of Mexico coastline continue to be lost to urban development.

What is Being Done to Conserve Cerulean Warblers?

Monitoring

Data collected on population trends have been inadequate. Now, a number of groups and agencies are monitoring cerulean warblers on their properties. Also, the Cornell University Laboratory conducted the Cerulean Warbler Atlas Project to determine the number of breeding pairs and productivity, describe nesting habitat, and identify potential threats to the population and its habitat.

Research

There is little known about many aspects of the life history of the cerulean warbler and its habitat requirements, both in breeding and wintering areas. In addition to the Atlas Project, mentioned above, several other studies to provide this information and to provide management guidance have been initiated. The Service will continue to emphasize and assign high priority to cerulean warbler

research and monitoring efforts aimed at gaining a better understanding of threats to the species.

Restoration

Hardwood trees are being replanted in bottomland areas that had previously been maintained as open fields on National Wildlife Refuges, National Forests, and National Parks throughout the cerulean warbler's breeding range.

Management

State and federal land management agencies have shown great interest in investigating and implementing ways to conserve and improve cerulean warbler habitat. Several National Forests throughout the cerulean warbler's breeding range have implemented conservation measures for migratory birds, and they are monitoring the effects of various management practices on interior forest breeding birds. Some of these efforts are showing early signs of success in attracting singing males, with some evidence of productive breeding efforts, but more research is needed to address persistence and overall reproductive success at these sites.

Conservation Coordination

A consortium of private, state, and federal natural resource managers and species experts have joined with the purpose of developing a collaborative, proactive strategy for the conservation of the cerulean warbler.

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